

Lawrence T. Oliver

PART 2

**SUMMARY OF TESTIMONY OF  
LAWRENCE T. OLIVER**

In my testimony I support Roanoke Gas Company's capital structure and cost of capital. I recommend that the Commission use a pro forma June 30, 2023 capital structure for setting rates in the proceeding as it is the most representative of the capitalization ratios and overall cost of capital during the rate period.

I also support the Company's cost of service study and rate design. With the exception of the new meter cost and service cost allocators, the allocation factors are those approved by the Commission in the Company last rate case. The Company's rate design is developed using similar methods approved in the most recent SAVE case and the Company's last rate case.

**DIRECT TESTIMONY OF  
LAWRENCE T. OLIVER  
ON BEHALF OF  
ROANOKE GAS COMPANY  
BEFORE THE  
VIRGINIA STATE CORPORATION COMMISSION  
CASE NO. PUR-2022-00205**

1    **Q.    PLEASE STATE YOUR NAME AND POSITION WITH THE COMPANY.**

2    **A.**    My name is Lawrence T. Oliver and I am the Vice President, Regulatory Affairs  
3           and Strategy for Roanoke Gas Company ("Roanoke Gas" or the "Company").

4    **Q.    BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**  
5           **WORK EXPERIENCE.**

6    **A.**    I received a Bachelor of Business Administration from James Madison University  
7           in May of 1989 and a Masters of Business Administration from Virginia  
8           Commonwealth University in December of 1992. From May 1989 to November  
9           2018, I was employed by the Virginia State Corporation Commission  
10          ("Commission") in various capacities. When I retired from the Commission on  
11          November 30, 2018, I was Deputy Director in the Division of Utility Accounting  
12          and Finance. I have been employed by Roanoke Gas since December 2018.

13   **Q.    HAVE YOU PREVIOUSLY FILED TESTIMONY WITH THIS OR ANY**  
14          **OTHER REGULATORY COMMISSION?**

15   **A.**    Yes. During my career at the Commission I filed testimony on behalf of the Staff  
16          of the Commission in well over 100 cases. I also filed rebuttal testimony on behalf  
17          of Roanoke Gas in Case No. PUR-2018-00013. Most recently, I filed direct and

1 rebuttal testimony on behalf of the Company in Case No. PUR-2022-00125, the  
2 Company's application for approval of a renewable natural gas facility.

3 **Q. WILL YOU BRIEFLY DESCRIBE THE COMPANY'S REQUEST IN THIS**  
4 **PROCEEDING?**

5 **A.** As discussed in greater detail by Company witnesses Nester and Banka, the  
6 Company is proposing to increase its base rates effective January 1, 2023, the start  
7 of the rate year, to produce an annual increase in revenues of \$8.55 million,  
8 including \$4.05 million that had previously been recovered through the Company's  
9 SAVE Rider.

10 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**  
11 **PROCEEDING?**

12 **A.** The purpose of my testimony is to discuss the Company's proposed capital  
13 structure to be used to set rates in this proceeding as well as the Company's  
14 proposed rate design.

15 **Q. WHAT CAPITAL STRUCTURE DOES THE COMPANY PROPOSE TO**  
16 **USE IN THIS PROCEEDING?**

17 **A.** The Company proposes to use a pro forma June 30, 2023 capital structure. This  
18 point in time represents the midpoint of the rate year in the proceeding and best  
19 represents the Company's capital structure and cost of capital for the rate year.

1   **Q.   HOW DOES THE COMPANY'S END OF TEST YEAR CAPITAL**  
2       **STRUCTURE COMPARE TO THE PRO FORMA JUNE 30, 2023 CAPITAL**  
3       **STRUCTURE YOU ARE PROPOSING TO USE?**

4    A.   The Company's capital structure as of September 30, 2022, contains an equity ratio  
5       of approximately 56.3% and a weighted average cost of capital of 6.954%. The pro  
6       forma June 30, 2023, capital structure, as shown in Schedule 8 and supported by  
7       Schedules 8A and 8B, contains an equity ratio of 59.01% and a weighted average  
8       cost of capital of 7.019%. For comparison purposes, the capital structure the  
9       Commission approved for use in setting rates in Roanoke Gas's last rate case  
10      contained a 59.63% equity ratio and a weighted average cost of capital of 7.30%.

11   **Q.   WHY HAS THE COMPANY'S EQUITY RATIO AND WEIGHTED**  
12       **AVERAGE COST OF CAPITAL DECREASED FROM THE LAST RATE**  
13       **CASE TO THE END OF THE TEST PERIOD?**

14   A.   Since the last rate case, the Company took advantage of the historically low interest  
15       rate environment to finance its capital budget with low cost debt, to our customers'  
16       benefit. For example, within the last 15 months the Company issued a \$15 million  
17       note at an interest rate of 2.00% and a \$10 million note with an effective interest  
18       rate of 2.47%. A portion of these proceeds were used to refinance a high cost note  
19       that matured in late 2021.

20               The results of these actions have lowered the Company's weighted average  
21       cost of debt and the overall cost of capital. As interest rates began to rise, the

1 Company decided to finance a portion of its capital budget through an equity  
2 offering by its parent Company, RGC Resources, Inc. ("Resources"), and a  
3 subsequent transfer of \$15 million to Roanoke Gas in the form of equity capital.  
4 Because the majority of the permanent capital that was issued recently has been  
5 debt, the capitalization ratios of the Company have become more leveraged as  
6 evidenced by the lower equity ratio as of September 30, 2022 compared to the  
7 59.63% equity ratio as of the last rate case.

8 **Q. HOW DOES THE COMPANY ANTICIPATE FINANCING ITS CAPITAL**  
9 **BUDGET IN THE TEST YEAR?**

10 **A.** The Company anticipates using short term debt coupled with retained earnings and  
11 equity capital to finance its capital budget during the rate year. The Company's  
12 June 30, 2023 pro forma capital structure reflects the anticipated short term debt  
13 and equity capital issuances.

14 Given the sudden and dramatic increase in interest rates over the past nine  
15 months, the Company prefers to not issue debt in this elevated interest rate  
16 environment and lock in that higher cost of debt into future rates. Rather, the  
17 Company's parent, Resources, anticipates issuing equity capital, possibly through  
18 secondary offerings, private placement or its At-The-Market ("ATM") program, in  
19 order to secure needed capital.

20 Because Resources's stock is thinly traded, the cost to issue common stock  
21 in a large public offering is more expensive than companies with larger trading

1 volumes. Private placement or the ATM program allows Resources to issue a small  
2 number of shares over a long period of time, but still incur significant issuance  
3 costs.

4 **Q. WHY SHOULD THE COMMISSION ADOPT THE PRO FORMA**  
5 **CAPITAL STRUCTURE PROPOSED BY THE COMPANY TO SET RATES**  
6 **IN THIS PROCEEDING?**

7 **A.** As I describe above, the pro forma June 30, 2023 capital structure is representative  
8 of the manner in which the Company will finance its capital budget during the rate  
9 year. Although the Commission has found in various prior cases that a test year  
10 capital structure is representative of the capitalization ratios and cost of capital in  
11 the rate year, this is simply not the case for Roanoke Gas in the current environment  
12 for capital. Accordingly, the Commission should adopt the June 30, 2023 capital  
13 structure as it is representative of how the Company will actually finance its capital  
14 budget in the rate year. This is substantially different from how the Company  
15 financed its capital budget during the test year, which is a result of the recent  
16 significant changes in capital markets, including the sudden and dramatic increase  
17 in interest rates.

18 **Q. PLEASE REVIEW THE BALANCE OF SHORT-TERM DEBT IN THE**  
19 **JUNE 30, 2023 CAPITAL STRUCTURE.**

20 **A.** The balance of short-term debt in the end of test period capital structure and pro  
21 forma capital structure is reflected on a thirteen-month average balance. The

1           balances in the 13 month average are actuals through November 30, 2022 and  
2           projected from December 1, 2022 through June 30, 2023.

3   **Q.   PLEASE REVIEW THE BALANCE OF LONG-TERM DEBT IN THE JUNE**  
4       **30, 2023 CAPITAL STRUCTURE.**

5   **A.**   The balance of long-term debt reflects the face amount of debt that will be  
6       outstanding on June 30, 2023, adjusted for unamortized balances of issuance  
7       expenses and gains/losses on reacquired debt. These calculations are shown on  
8       Schedules 8A.

9   **Q.   PLEASE EXPLAIN THE BALANCE OF COMMON EQUITY IN THE**  
10       **RATEMAKING CAPITAL STRUCTURE.**

11   **A.**   The balance of common equity in the pro forma capital structure is  
12       \$123,674,950. This balance is based on the actual September 30, 2022  
13       common equity balance adjusted to reflect anticipated changes in the various  
14       equity accounts.

15   **Q.   WHAT COST RATE DO YOU PROPOSE FOR THE COMPANY'S**  
16       **SHORT-TERM DEBT?**

17   **A.**   The cost of short-term debt is 4.123% based on the three-month average of  
18       the Company's actual short-term debt rates from September through  
19       November of 2022. The use of an actual three-month average interest rate  
20       for short-term debt is consistent with past Commission precedent.

1   **Q.   WHAT IS THE COST RATE FOR THE COMPANY'S LONG-TERM**  
2       **DEBT?**

3   **A.   The cost of debt for each series of debt is calculated based on an annual yield**  
4       **to maturity calculation.**

5   **Q.   WHAT COST OF EQUITY IS THE COMPANY PROPOSING IN**  
6       **THIS CASE?**

7   **A.   The Company has used its most recently authorized return on equity of**  
8       **9.44%.**

9                               **COST ALLOCATION AND RATE DESIGN**

10   **Q.   IN CASE NO. PUR-2018-00030, THE COMPANY'S LAST RATE CASE**  
11       **("2018 RATE CASE"), THE STAFF OF THE SCC RAISED CONCERNS**  
12       **WITH THE COMPANY'S LONG-STANDING METHODOLOGY FOR**  
13       **ALLOCATING METER COSTS. HAS THE COMPANY ADDRESSED**  
14       **STAFF'S CONCERNS IN THIS APPLICATION?**

15   **A.   Yes. The Company hired Greg A. Abbott, an outside consultant, to develop a new**  
16       **meter cost allocator. As discussed in Mr. Abbott's testimony filed in this case, Mr.**  
17       **Abbott used Staff's approach that it proposed in the 2018 Rate Case with certain**  
18       **refinements based on more detailed information regarding the actual meters in**  
19       **service in the Company's service territory. In addition, the Company developed a**  
20       **new service line cost allocator with the assistance of Mr. Abbott. With the**  
21       **exception of a new meter cost and service line allocator, the Company's cost**  
22       **allocation methodology is unchanged from the prior case.**

1    **Q.    HOW IS THE COMPANY PROPOSING TO RECOVER THE CURRENT**  
2    **SAVE RIDER REVENUE REQUIRMENT FROM CUSTOMERS?**

3    **A.**    As discussed by Company witness Banka, the Company is proposing to terminate  
4    its current SAVE Plan and roll the SAVE Rider revenue requirement into its base  
5    rates proposed in this proceeding. In keeping with the approach approved by the  
6    Commission in the 2018 Rate Case, the revenues currently being recovered through  
7    the Company's SAVE Rider will be recovered through the Company's volumetric  
8    charges.

9    **Q.    WHAT IS THE COMPANY PROPOSING REGARDING RATE DESIGN?**

10   **A.**    In keeping with the approach approved by the Commission in the 2018 Rate Case,  
11   the Company proposes to spread the increase in the revenue requirement between  
12   its fixed and volumetric charges. In addition to the increase in the volumetric  
13   charges reflected in Schedule 42 to the Company's Application, the revised tariffs  
14   include a modest increase to the monthly customer charges as shown below:

	Customer Charge			
	Current	SAVE Rider	Total Customer Charge	Proposed
Residential	\$ 15.00	\$ 4.78	\$ 19.78	\$ 17.00
GS1	\$ 27.00	\$ 4.07	\$ 31.07	\$ 31.00
GS2	\$ 75.00	\$ 20.77	\$ 95.77	\$ 85.00
ISS	\$ 700.00	\$ 270.42	\$ 970.42	\$ 900.00
ITS	\$ 900.00	\$ 643.79	\$ 1,543.79	\$ 1,400.00
Back Up Service	\$ 319.42		\$ 319.42	\$ 319.42
IFSS	\$ 1,000.00		\$ 1,000.00	\$ 1,400.00
IFTS	\$ 1,000.00	\$ 1,002.98	\$ 2,002.98	\$ 1,400.00

1 As can be seen in the Table above, the Company's proposed monthly fixed charges  
2 are less than the current sum of the monthly fixed charges on customers' bills (for  
3 those customers subject to the SAVE Rider).

4 Of the total incremental revenues requested in this case (\$8,545,048),  
5 \$1,890,792 will be collected through the increased fixed charges. The revenue  
6 requirement related to the roll-in of the SAVE Rider Projected Factor (\$4,050,506)  
7 is being allocated based on the revenue apportionment approved by Final Order  
8 dated August 23, 2022 in Case No. PUR-2022-00086, the Company's most recent  
9 SAVE case. The remaining incremental revenues of \$2,603,750 are being allocated  
10 to each rate class based the proportion of revenues generated by each rate class  
11 relative to total revenues. These calculations are supported in workpapers attached  
12 to schedule 42.

13 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

14 **A.** Yes, it does.

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Greg L. Abbott

**SUMMARY OF THE DIRECT TESTIMONY OF  
GREGORY ABBOTT**

My testimony in this proceeding is on behalf of Roanoke Gas Company (“Roanoke” or “Company”). My services were retained by Roanoke to assist the Company with the development of the Meter Cost Allocator and a new Services Cost Allocator to be used in the Class Cost of Service (“CCOS”) study in this case. In addition, my testimony assists Roanoke with the development of a new rate design to incent economic development in the Company’s service territory.

The appropriate Meter Cost Allocator was a litigated issue in Roanoke’s last General Rate Case, Case No. PUR-2018-00013. The Meter Cost Allocator that I developed for use in the Company’s CCOS study in this case is consistent with the methodology approved by the Commission in Case No. PUR-2018-00013. However, I make two refinements to the calculation and application of the allocator that results in a more accurate class cost allocation.

The first refinement was the use of more detailed meter cost data in the calculation. The second refinement is the development of a separate Services Cost Allocator for allocating services-related costs rather than using the Meter Cost Allocator.

**DIRECT TESTIMONY OF  
GREGORY L. ABBOTT  
ON BEHALF OF  
ROANOKE GAS COMPANY  
BEFORE THE  
VIRGINIA STATE CORPORATION COMMISSION  
CASE NO. PUR-2022-00205**

1   **Q1.   PLEASE STATE YOUR NAME AND BUSINESS ADDRESS AND YOUR**  
2       **ROLE WITH ROANOKE GAS COMPANY IN THIS PROCEEDING.**

3   **A1.**   My name is Gregory Abbott, and my address is 8610 Sunview Lane, North  
4       Chesterfield, VA. I am an energy consultant working as a sole proprietor. My expert  
5       testimony in this proceeding is on behalf of Roanoke Gas Company (“Roanoke” or  
6       “Company”).

7   **Q2.   PLEASE   SUMMARIZE   YOUR   EXPERIENCE   IN   ENERGY**  
8       **REGULATION IN VIRGINIA.**

9   **A2.**   I was previously employed as a member of the Virginia State Corporation  
10       Commission (“Commission”) Staff and retired earlier this year as a Deputy Director  
11       after 24 years of service in the Commission’s Division of Public Utility Regulation.  
12       I have extensive experience in the regulation of electric, gas, water and sewer  
13       utilities located in the Commonwealth. This experience ranges from general rate  
14       increase applications, class cost of service, rate design, special contract rates,  
15       experimental rates, Integrated Resource Plans, generation certificates, service  
16       territory certificates, Renewable Portfolio Standard cases, coal ash disposal, rate  
17       adjustment clauses, Demand-Side Management, PJM matters, weather  
18       normalization adjustments, CARE plans, and pole attachments. I have testified

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before the Commission in scores of cases and a representative list of cases is provided in Attachment GLA-1.

**Q3. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

**A3.** My services were retained by Roanoke to assist the Company with the development of the Meter Cost Allocator and a new Services Cost Allocator to be used in the Class Cost of Service (“CCOS”) study in this case. In addition, my testimony assists Roanoke with the development of a new rate design to incent economic development in the Company’s service territory.

**METER COST ALLOCATOR**

**Q4. PLEASE PROVIDE AN OVERVIEW OF THE NECESSITY OF DEVELOPING A NEW METER COST ALLOCATOR IN THIS CASE.**

**A4.** The appropriate Meter Cost Allocator was a litigated issue in Roanoke’s last General Rate Case, Case No. PUR-2018-00013 (“2018 Rate Case”). In that case, Roanoke’s Meter Cost Allocator was based on customer count by class.<sup>1</sup> Staff challenged the Company’s Meter Cost Allocator and proposed an alternative methodology that used a customer weighted meter cost allocator that sought to recognize the differing meter sizes and costs of meters used by each customer class. The Commission’s January 24, 2020 Final Order in the 2018 Rate Case found “that

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<sup>1</sup> This customer count methodology was also used by Roanoke in several prior Expedited Rate Cases and was not challenged by Staff or other parties in those prior cases.

1 it is reasonable to adopt Staff's proposed meter cost allocator for this case" while  
2 also acknowledging that additional data could be used to refine the methodology.<sup>2</sup>

3 The Meter Cost Allocator that I developed for use in the Company's CCOS  
4 study in this case is consistent with the Staff proposed methodology approved by  
5 the Commission in the 2018 Rate Case. However, I make two refinements to the  
6 calculation and application of the allocator that results in a more accurate class cost  
7 allocation.

8 **Q5. PLEASE IDENTIFY THE TWO REFINEMENTS THAT YOU MADE.**

9 **A5.** The first refinement was the use of more detailed meter cost data in the calculation  
10 compared to what Staff used the 2018 Rate Case. The second refinement is the  
11 development of a separate Services Cost Allocator for allocating services-related  
12 costs rather than using the Meter Cost Allocator.

13 **Q6. PLEASE DESCRIBE HOW YOU DEVELOPED THE METER COST**  
14 **ALLOCATOR IN THIS CASE.**

15 **A6.** I employed a similar methodology for developing the Meter Cost Allocator as that  
16 proposed by Staff in the 2018 Rate Case. Namely, I developed the Meter Cost  
17 Allocator by weighting the customer count of each class with the average meter  
18 cost of the class. In the 2018 Rate Case, Staff used information on typical meter  
19 costs by class provided by Roanoke in response to discovery. In that case, Roanoke

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<sup>2</sup> See *Application of Roanoke Gas Company, For a general increase in rates*, Case No. PUR-2018-00013, 2020 S.C.C. Ann. Rept. 213, 221, Final Order (Jan. 24, 2020).

1           objected to the use of this meter cost data as being inadequate for Staff's calculation  
2           of its proposed Meter Cost Allocator. I have reviewed the population of meters  
3           currently in use by Roanoke across all customer classes and discovered that there  
4           is a diverse population of meter types in use. Further, there is a significant amount  
5           of overlap of meter types across customer classes. Although I conceptually agree  
6           with Staff's proposed meter cost methodology adopted by the Commission in the  
7           last rate case, I determined that the use of more detailed and granular data would  
8           produce a more accurate calculation of the Meter Cost Allocator.

9   **Q7.   PLEASE ELABORATE ON THE OBSERVED DIVERSITY IN THE**  
10   **POPULATION OF METERS CURRENTLY IN USE BY ROANOKE.**

11   **A7.**   There are 41 different meter types in use. The table below shows the different meter  
12   types currently in use by each jurisdictional rate class.

	<u>Meter Type</u>	<u>Res.</u>	<u>GS-1</u>	<u>GS-2</u>	<u>Ind.</u>
1					
2	11M17	--	--	12	3
3	16M17	--	--	1	2
4	16M28	--	--	1	--
5	23M17	--	--	1	3
6	23M23	--	--	--	2
7	3.5M	--	--	3	--
8	38M17	--	--	1	1
9	3M175	2	6	80	1
10	4GT	--	--	--	1
11	4GTS	--	--	2	2
12	5.5M	--	--	8	1
13	53CVM	--	--	1	--
14	5M175	--	6	58	3
15	6GT	--	--	1	6
16	7M175	--	2	20	1
17	A1000	271	357	651	--
18	A1400	5	36	147	--
19	A225	156	8	--	--
20	A2300	2	9	114	1
21	A5000	--	3	15	--
22	AC250	40,338	1,741	58	--
23	AC630	823	228	135	--
24	AC800	12	7	16	--
25	AL175	7,206	264	5	--
26	AL225	11	1	--	--
27	AL250	155	7	--	--
28	AL310	16	5	1	--
29	AL425	933	590	146	--
30	AL800	1	3	6	--
31	D1000	26	14	16	--
32	M250	1,499	55	1	--
33	METR6	40	1	--	--
34	R175	981	37	1	--
35	R200	1,100	50	1	--
36	R250	107	8	--	--
37	R275	3,665	66	5	--
38	R3000	--	--	5	--
39	R5000	--	--	3	--
40	R750	--	3	--	--
41	SX880	52	11	21	--
42	T-30	--	--	--	1

43                   As shown in the Table above, most meter types currently in service are used  
44                   across two or more of the jurisdictional customer classes. As such, there really isn't  
45                   a single "typical" meter to use in the development of the Meter Cost Allocator.

1           Instead, I developed an average meter cost by class based on the actual distribution  
2           of meters currently in use.

3   **Q8.   PLEASE DESCRIBE HOW YOU DEVELOPED THE PROPOSED METER**  
4   **COST ALLOCATOR IN THIS CASE.**

5   **A8.**   Although Roanoke has a complete inventory of current meters in use by customer  
6           class, Roanoke's legacy customer data and billing systems do not allow for easy  
7           retrieval of detailed meter cost data by class.<sup>3</sup> This data would allow for a detailed  
8           analysis of the full history of the relationship for the costs of meters for each rate  
9           class for all meters currently in service. Since this data is not available, I made a  
10          simplifying assumption that the historic meter cost relationships by class for the  
11          full inventory of meters in service are similar to the observed meter cost  
12          relationships by class for those meters installed during the test year. Although the  
13          total population of meters includes 41 different meter types, many of these meter  
14          types are no longer being installed by Roanoke. During the test year, Roanoke  
15          installed 14 different meter types. I used the actual costs incurred during the test  
16          year for each of these meter types multiplied by the number of customers in each  
17          customer class that have each of these meter types to arrive at a weighted average  
18          meter cost by rate class. In addition to using the costs of meter types installed during  
19          the test year currently in use for the industrial class, I added in the cost<sup>4</sup> of the 6GT

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<sup>3</sup> Roanoke is in the process of replacing its data systems with a new modern Enterprise Resource Program ("ERP").

<sup>4</sup> I used the cost listed from the manufacturer's website for the 6GT meter.

meter which is the most prevalent meter (approximately 20%) in use for industrial customers.<sup>5</sup> The resulting weighted average meter cost by class is shown in the Table below.

<u>Class</u>	<u>Weighted Average Meter Cost</u>
Res.	\$120.23
GS-1	\$336.98
GS-2	\$1,088.95
Ind.	\$4,873.69

I next multiplied these weighted average meter costs times the number of customers in each customer class to derive the customer weighted Meter Cost Allocator which is shown in the Table below.

<u>Class</u>	<u>Meter Cost Allocator</u>
Res.	69.64%
GS-1	12.03%
GS-2	16.90%
Ind.	1.43%

In the CCOS study, the proposed Meter Cost Allocator is applicable to Distribution Plant Accounts 381, 381.1, 381.2, 382, 382.2, 383, 384, and 386 and Operation and Maintenance Accounts 893, 893.1, 893.2, 893.3, and 893.4.

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<sup>5</sup> There were no new meters installed for the industrial class during the test year, however, several meter types installed for other rate classes during the test year are also used by industrial customers. I added in the cost of the 6GT meter to ensure that the most prevalent meter in use by the industrial class was included in the calculation of the allocator.

1   **Q9.   PLEASE EXPLAIN THE RATIONALE FOR DEVELOPING THE NEW**  
2       **PROPOSED SERVICES COST ALLOCATOR.**

3   **A9.**   Historically, Roanoke has allocated its services-related costs using the Meter Cost  
4       Allocator. However, it is common in the industry to use a separate Services Cost  
5       Allocator. I developed the proposed Services Cost Allocator in this case using a  
6       similar methodology as that used in the development of the proposed Meter Cost  
7       Allocator. As described earlier in my testimony, in addition to the customer count,  
8       the Meter Cost Allocator is based on the cost differential for the differing size of  
9       meters used for each rate class. Similarly, the proposed Services Cost Allocator is  
10      based on the customer count and the cost differential for the differing service line  
11      sizes used for each rate class. Service line costs are a function of the diameter of  
12      the pipe and the length of the service drop to customers. Typically, the cost  
13      relationships of services by class are different than the cost relationships of meters  
14      by class. Therefore, a more accurate allocation of costs can be obtained by  
15      developing a separate Services Cost Allocator.

16   **Q10. PLEASE DESCRIBE HOW YOU DEVELOPED THE PROPOSED**  
17      **SERVICES COST ALLOCATOR.**

18   **A10.**   As I mentioned previously, Roanoke's legacy customer data and billing systems do  
19      not allow for easy retrieval of detailed service line cost data by class. Therefore,  
20      similar to the development of the Meter Cost Allocator, I made a simplifying  
21      assumption that the historic services cost relationships by class for the full

1 inventory of service lines in service are similar to the observed services cost  
2 relationships by class for those service lines installed during the test year.  
3 Roanoke's data systems classify the costs of each service line installed as either  
4 residential or commercial but does not further distinguish the commercial service  
5 lines as GS-1 or GS-2. Further, Roanoke has not installed a new industrial service  
6 line in a number of years.

7 Similar to the development of the Meter Cost Allocator, I used the actual  
8 costs incurred during the test year for each of the service lines multiplied by the  
9 number of customers in each customer class to arrive at a weighted average service  
10 line cost by rate class. Since Roanoke does not track GS-1 and GS-2 service line  
11 costs separately, I used the same average commercial service line cost for both the  
12 GS-1 and GS-2 classes. Further, since Roanoke has not installed a new service line  
13 for an industrial customer for a number of years, I used the highest service line cost  
14 observed during the test year as a proxy for the average cost of an industrial service  
15 line. The resulting weighted average services cost by class is shown in the Table  
16 below.

<u>Class</u>	<u>Weighted Average Services Cost</u>
Res.	\$4,756
GS-1	\$9,339
GS-2	\$9,339
Ind.	\$79,788

I next multiplied these weighted average services costs times the number of customers in each customer class to derive the customer weighted Services Cost Allocator which is shown in the Table below.

	<u>Class</u>	<u>Services Cost Allocator</u>
	Res.	84.59%
	GS-1	10.24%
	GS-2	4.45%
	Ind.	0.72%

In the CCOS study, the proposed Service Cost Allocator is applicable to Distribution Plant Account 380 and Operation and Maintenance Account 892.

**Q11. DO YOU HAVE ANY FURTHER COMMENTS ON COST ALLOCATION?**

**A11.** Yes. Both the proposed Meter Cost Allocator and the proposed Services Cost Allocator were developed consistent with the methodology adopted by the Commission in the 2018 Rate Case. It should be noted that the new ERP will facilitate the calculation of these allocators on a going forward basis.

**ECONOMIC DEVELOPMENT RATE DESIGN**

**Q12. WHAT IS THE RATIONALE FOR PROPOSING A NEW RATE DESIGN TO INCENT ECONOMIC DEVELOPMENT?**

**A12.** Roanoke requested that I develop an economic development rate that can be used to attract new industrial customers to locate in the Company's service territory as well as to potentially incent existing industrial customers to expand their operations

5 Q13. WHAT FACTORS DID YOU CONSIDER IN THE DEVELOPMENT OF A  
6 NEW PROPOSED ECONOMIC DEVELOPMENT RATE?

15    **Q14. PLEASE DESCRIBE YOUR PROPOSED ECONOMIC DEVELOPMENT**  
16    **RATE DESIGN CHANGE.**

17     **A14.** Based on my review of the historic usage data, I believe it is better to make a simple  
18     modification to the existing ITS rate schedule rather than design a new separate rate

<sup>6</sup> For industrial customers that have historic monthly usage with a high degree of variability, Roanoke used a five-year average to normalize the billing determinants for those customers.

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1 schedule. A comparison of the current ITS rate schedule with my proposed rate  
2 design change is shown below.

3	<u>Current Schedule ITS</u>		<u>Proposed Schedule ITS</u>	
4	Customer Charge	\$900	Customer Charge	\$900
5	First 43,000 TH	\$0.179568	First 43,000 TH	\$0.179568
6	43,000–700,000 TH	\$0.061885	43,000–700,000 TH	\$0.061885
7	Over 700,000 TH	\$0.025000	700,000–1,200,000 TH	\$0.025000
8			Over 1,200,000 TH	\$0.012500

9 For comparison purposes, this Table shows my proposed rate design change  
10 to the existing Schedule ITS rates. It should be noted that Roanoke is proposing  
11 different rates for the existing Schedule ITS rate blocks. As shown above, my  
12 proposed economic development rate design change simply adds a new tail block  
13 to the existing Schedule ITS. For usage over 1,200,000 therms, the economic  
14 development rate that I propose is \$0.0125 per therm, which is a 50% discount to  
15 the marginal rate contained in the existing Schedule ITS tail block. It should be  
16 noted that a new industrial customer taking service under Schedule ITS would pay  
17 the exact same amount as they would under the current Schedule ITS for all  
18 monthly usage under 1,200,000 therms.

19 **Q15. WILL THE PROPOSED ECONOMIC DEVELOPMENT RATE DESIGN**  
20 **CHANGE LEAD TO ANY EXISTING CUSTOMERS RECEIVING A**  
21 **DISCOUNT BASED ON TEST YEAR BILLING DETERMINANTS?**

22 **A15.** No. Therefore, this rate design change will have no impact on achieving the revenue  
23 requirement in this case as the expected revenues collected from the proposed new

1 tail rate block, based on normalized test year billing determinants, is zero. Further,  
2 if new economic development load does not materialize in the future, then this rate  
3 design change will similarly not have any impact on future rate cases. However, to  
4 the extent that any of Roanoke's existing customers expand their business or  
5 Roanoke is able to attract new high use industrial customers seeking a low marginal  
6 gas rate, then this rate will have an impact on revenues collected in future rate cases.  
7 The economic development rate design can be re-examined at that time to ensure it  
8 continues to recover the cost of service for any such high-volume customers.

9 **Q16. DOES THIS CONCLUDE YOUR TESTIMONY?**

10 **A16.** Yes.

## Gregory Abbott Testimonies/Reports

Proceeding	Case/Docket No.	On Behalf of:
Dale Service Corporation For General Increase in Rates	Virginia SCC Case No. PUE-2001-00200	Virginia SCC Staff
CPV Cunningham Creek LLC For Approval of a Generation Certificate	Virginia SCC Case No. PUE-2001-00477	Virginia SCC Staff
CPV Warren LLC For Approval of a Generation Certificate	Virginia SCC Case No. PUE-2002-00075	Virginia SCC Staff
Dale Service Corporation For Review of Changes to Terms and Conditions	Virginia SCC Case No. PUE-2002-00092	Virginia SCC Staff
Virginia Natural Gas, Inc. For Approval of a Weather Normalization Adjustment Rider	Virginia SCC Case No. PUE-2002-00237	Virginia SCC Staff
Virginia-American Water Company For General Increase in Rates	Virginia SCC Case No. PUE-2002-00375	Virginia SCC Staff
Community Electric Cooperative For Approval of Retail Access Tariffs and Terms and Conditions of Service for Retail Access	Virginia SCC Case No. PUE-2003-00007	Virginia SCC Staff
A&N Electric Cooperative For Review of Tariffs and Terms and Conditions of Service for Retail Service	Virginia SCC Case No. PUE-2003-00279	Virginia SCC Staff
Central Virginia Electric Cooperative For Approval of Its Plan to Implement Retail Access	Virginia SCC Case No. PUE-2003-00327	Virginia SCC Staff
Atmos Energy Corporation For an Increase in Rates	Virginia SCC Case No. PUE-2003-00507	Virginia SCC Staff
Virginia-American Water Company For General Increase in Rates	Virginia SCC Case No. PUE-2003-00539	Virginia SCC Staff
Washington Gas Light Company For Approval of an Experimental Weather Normalization Adjustment	Virginia SCC Case No. PUE-2001-00010	Virginia SCC Staff
Craig-Botetourt Electric Cooperative For a General Increase in Electric Rates	Virginia SCC Case No. PUE-2005-00012	Virginia SCC Staff
Virginia Natural Gas, Inc. For Approval of a Performance Based Rate Regulation Methodology	Virginia SCC Case No. PUE-2005-00057	Virginia SCC Staff

Virginia Natural Gas, Inc. For Investigation of Justness and Reasonableness of Current Rates, Charges, and Terms and Conditions of Service	Virginia SCC Case No. PUE-2005-00062	Virginia SCC Staff
Roanoke Gas Company For and Expedited Increase in Rates	Virginia SCC Case. No. PUE-2005-00075	Virginia SCC Staff
Highland New Wind Development, LLC For Approval to Construct, Own and Operate an Electric Generation Facility	Virginia SCC Case. No. PUE-2005-00101	Virginia SCC Staff
Dale Service Corporation For an Expedited Increase in Rates	Virginia SCC Case. No. PUE-2006-00070	Virginia SCC Staff
Virginia Natural Gas, Inc. For Approval of an Experimental Weather Normalization Adjustment for General Service Customers	Virginia SCC Case. No. PUE-2006-00095	Virginia SCC Staff
Roanoke Gas Company For an Expedited Increase in Rates	Virginia SCC Case. No. PUE-2006-00099	Virginia SCC Staff
CPV Warren, LLC For Approval of a Generation Certificate	Virginia SCC Case. No. PUE-2007-00018	Virginia SCC Staff
Appalachian Power Company For Adjustment to Capped Electric Rates	Virginia SCC Case. No. PUE-2007-00069	Virginia SCC Staff
Old Dominion Electric Coop. & Columbia Gas of Virginia For Approval of a Certificate to Acquire Ownership Interest	Virginia SCC Case. No. PUE-2007-00088	Virginia SCC Staff
James River Cogeneration Company For a Certificate to Operate as an Electric Generating Facility	Virginia SCC Case. No. PUE-2007-00092	Virginia SCC Staff
Spectra Energy Virginia Pipeline Co. For Cancellation of Certificates	Virginia SCC Case. No. PUE-2007-00106	Virginia SCC Staff
Appalachian Power Company For Approval to Participate in the Virginia Renewable Energy Portfolio Standard Program	Virginia SCC Case. No. PUE-2008-00003	Virginia SCC Staff
Atmos Energy Corporation For an Expedited Increase in Rates	Virginia SCC Case. No. PUE-2008-00007	Virginia SCC Staff
Virginia Electric and Power Company For Approval of a Generation Certificate	Virginia SCC Case. No. PUE-2008-00014	Virginia SCC Staff
Columbia Gas of Virginia, Inc. For Approval of an Experimental Weather Normalization Adjustment Mechanism	Virginia SCC Case. No. PUE-2008-00074	Virginia SCC Staff

Roanoke Gas Company For an Expedited Increase in Rates	Virginia SCC Case. No. PUE-2008-00088	Virginia SCC Staff
Mecklenburg Electric Cooperative For a General Increase in Electric Rates	Virginia SCC Case. No. PUE-2009-00006	Virginia SCC Staff
Virginia Electric and Power Company For Approval of Annual Filing of Rider S	Virginia SCC Case. No. PUE-2000-00011	Virginia SCC Staff
Virginia Electric and Power Company For Approval of a Rate Adjustment Clause for Recovery of the Costs of the Bear Garden Generating Station	Virginia SCC Case. No. PUE-2009-00017	Virginia SCC Staff
Washington Gas Light Company For Approval of Natural Gas Conservation and Ratemaking Efficiency Plan including a Decoupling Mechanism	Virginia SCC Case. No. PUE-2009-00064	Virginia SCC Staff
Craig-Botetourt Electric Cooperative For a General Increase in Electric Rates	Virginia SCC Case. No. PUE-2009-00065	Virginia SCC Staff
Appalachian Power Company For Approval of Purchase Power Agreements as Part of Its Participation in the Virginia Energy Portfolio Standard Program	Virginia SCC Case. No. PUE-2009-00102	Virginia SCC Staff
Columbia Gas of Virginia, Inc. For Authority to Increase Rates and Charges and to Revise the Terms and Conditions	Virginia SCC Case. No. PUE-2010-00017	Virginia SCC Staff
Virginia Electric and Power Company For Approval to Continue Two Rate Adjustment Clauses, Riders C1 and C2	Virginia SCC Case. No. PUE-2010-00084	Virginia SCC Staff
Appalachian Power Company Proposed Pilot Programs on Dynamic Rate Structures for Renewable Generation Facilities	Virginia SCC Case. No. PUE-2010-00134	Virginia SCC Staff
Virginia Natural Gas, Inc. For an Increase in Base Rates and Authority to Revise the Terms and Conditions	Virginia SCC Case. No. PUE-2010-00142	Virginia SCC Staff
Virginia Electric and Power Company For Approval to Establish an Electric Vehicle Pilot Program	Virginia SCC Case. No. PUE-2011-00014	Virginia SCC Staff
Appalachian Power Company For Approval of a Rate Adjustment Clause, RPS-RAC, to Recover the Incremental Costs of Participation in the Virginia Renewable Energy Portfolio Standard Program	Virginia SCC Case. No. PUE-2010-00034	Virginia SCC Staff

Virginia Electric and Power Company For Approval to Implement New Demand-Side Management Programs and For Approval of Two Updated Rate Adjustment Clauses	Virginia SCC Case. No. PUE-2011-00093	Virginia SCC Staff
Virginia-American Water Company For a General Increase in Rates	Virginia SCC Case. No. PUE-2011-00127	Virginia SCC Staff
Virginia Electric and Power Company To Revise a Rate Adjustment Clause: Rider R	Virginia SCC Case. No. PUE-2012-00068	Virginia SCC Staff
Virginia Electric and Power Company For Revision of Rate Adjustment Clause: Rider B	Virginia SCC Case. No. PUE-2012-00072	Virginia SCC Staff
Appalachian Power Company For Approval of the Recovery of Incremental Costs of Participation in the Renewable Energy Portfolio Program	Virginia SCC Case. No. PUE-2012-00094	Virginia SCC Staff
Virginia Electric and Power Company For Approval & Certification of Proposed Brunswick Co. Power Station	Virginia SCC Case. No. PUE-2012-00128	Virginia SCC Staff
Atmos Energy Corporation For Approval of a Special Contract for Gas Transportation Service	Virginia SCC Case. No. PUE-2013-00038	Virginia SCC Staff
Northern Virginia Electric Cooperative For Approval of Pole Attachment Rates and Terms and Conditions	Virginia SCC Case. No. PUE-2013-00055	Virginia SCC Staff
Virginia Electric and Power Company Integrated Resource Plan	Virginia SCC Case. No. PUE-2013-00088	Virginia SCC Staff
Virginia Electric and Power Company For Revision of Rate Adjustment Clause: Rider BW	Virginia SCC Case. No. PUE-2013-00122	Virginia SCC Staff
Appalachian Power Company Petition for Approval of Rate Adjustment Clause	Virginia SCC Case. No. PUE-2014-00007	Virginia SCC Staff
Appalachian Power Company Application for a 2014 Biennial Review of the Rates, Terms and Conditions for the Provision of Generation, Distribution and Transmission Services	Virginia SCC Case. No. PUE-2014-00026	Virginia SCC Staff
Virginia Electric and Power Company For Establishment of a Rate Adjustment Clause: Rider U, New Underground Distribution Facilities	Virginia SCC Case. No. PUE-2014-00089	Virginia SCC Staff
Appalachian Power Company Petition for Approval of Rate Adjustment Clause Related to its Participation in the Renewable Portfolio Energy Portfolio Program	Virginia SCC Case. No. PUE-2015-00034	Virginia SCC Staff

Virginia Electric and Power Company Integrated Resource Plan	Virginia SCC Case. No. PUE-2015-00035	Virginia SCC Staff
Washington Gas Light Company Application for Approval of a Natural Gas Supply Investment Plan	Virginia SCC Case. No. PUE-2015-00055	Virginia SCC Staff
Virginia Electric and Power Company For Approval of Special Rates, Terms and Conditions	Virginia SCC Case. No. PUE-2015-00103	Virginia SCC Staff
Virginia Electric and Power Company For Approval to Establish Experimental Companion Rates Designated Rate Schedule MBR - GS-3 and Rate Schedule MBR - GS-4	Virginia SCC Case. No. PUE-2015-00108	Virginia SCC Staff
Virginia Electric and Power Company For Establishment of a Rate Adjustment Clause: Rider U, New Underground Distribution Facilities	Virginia SCC Case. No. PUE-2015-00114	Virginia SCC Staff
Atmos Energy Corporation Application for Expedited Approval of a Special Contract for Gas Transportation Service	Virginia SCC Case. No. PUE-2015-00125	Virginia SCC Staff
Virginia Electric and Power Company Integrated Resource Plan	Virginia SCC Case. No. PUE-2016-00049	Virginia SCC Staff
Virginia Electric and Power Company For Revision of a Rate Adjustment Clause: Rider U	Virginia SCC Case. No. PUE-2016-00136	Virginia SCC Staff
Appalachian Power Company For Approval of a Wind G Rate Adjustment Clause	Virginia SCC Case. No. PUR-2017-00031	Virginia SCC Staff
Virginia Electric and Power Company Integrated Resource Plan	Virginia SCC Case. No. PUR-2017-00051	Virginia SCC Staff
Virginia Electric and Power Company For Approval to Establish Experimental Companion Tariff, Designated Schedule RF	Virginia SCC Case. No. PUR-2017-00137	Virginia SCC Staff
Virginia Electric and Power Company Integrated Resource Plan	Virginia SCC Case. No. PUR-2018-00065	Virginia SCC Staff
Virginia Electric and Power Company For Approval of a Rate Adjustment Clause, Designated Rider E	Virginia SCC Case. No. PUR-2018-00195	Virginia SCC Staff
Virginia Electric and Power Company For Approval & Certification of Proposed US-3 Solar Projects and for Approval of a Rate Adjustment Clause, Designated Rider US-3	Virginia SCC Case. No. PUR-2018-00101	Virginia SCC Staff

Virginia Electric And Power Company For Prudency Determination with Respect to the Coastal Virginia Offshore Wind Project	Virginia SCC Case. No. PUR-2018-00121	Virginia SCC Staff
Virginia Electric And Power Company For Revision of Rate Adjustment Clause: Rider US- 3	Virginia SCC Case. No. PUR-2019-00104	Virginia SCC Staff
Virginia Electric And Power Company For Approval & Certification of Proposed US-4 Solar Projects and for Approval of a Rate Adjustment Clause, Designated Rider US-4	Virginia SCC Case. No. PUR-2019-00105	Virginia SCC Staff
Virginia Electric And Power Company For a Prudency Determination with Respect to the Westmoreland Solar Power Purchase Agreement	Virginia SCC Case. No. PUR-2019-00133	Virginia SCC Staff
Virginia Electric And Power Company Integrated Resource Plan	Virginia SCC Case. No. PUR-2020-00035	Virginia SCC Staff
Virginia Electric And Power Company Establishing 2020 RPS Proceeding	Virginia SCC Case. No. PUR-2020-00134	Virginia SCC Staff
Appalachian Power Company Establishing 2020 RPS Proceeding	Virginia SCC Case. No. PUR-2020-00135	Virginia SCC Staff
Virginia Electric And Power Company Allocating RPS Costs to Certain Customers of Virginia Electric And Power Company	Virginia SCC Case. No. PUR-2020-00164	Virginia SCC Staff
Virginia Electric And Power Company To Revise Its Fuel Factor	Virginia SCC Case. No. PUR-2022-00064	Appalachian Voices
Appalachian Power Company 2022 Integrated Resource Plan Filing	Virginia SCC Case. No. PUR-2022-00051	Appalachian Voices